

**Notice of Allowability**

Application No.

10/762,823

Examiner

Susan F. Rayyan

Applicant(s)

SHAKIB ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 5/23/2007.
2. ☒ The allowed claim(s) is/are 1-30.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 6/12/2007.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Sung T. Kim, Registration Number 45,398 on June 12, 2007. The application has been amended as follows:

### CLAIMS

**In claim 1,**

**Between** Lines 2 and 3  
**Inserted,**

-- at least one processor;  
at least one memory;--

Line 13, **replaced** "if" with --when--

**In claim 19,**

Line 2, **replaced** "comprising" with --storing--

## **REASONS FOR ALLOWANCE**

2. The following is an examiner's statement of reasons for allowance:

Regarding independent claim 1, prior art of record does not teach a system comprising a processor, a memory, an index builder that stores location of documents, a index partitioner that orders and partitions the index into partitions that each contain location information about a group of one or more documents having a continuous range of static ranks that is a subset of a range of static ranks, an index scanner the scans the index partitions starting with the partitions containing documents with the highest static rank to locate documents containing a search word, and specifically Applicant's arguments in the amendment filed on May 23, 2007 concerning the particular subject matter of calculating a score based on the range of static ranks of the next partition to be scanned is convincing. Prior art of record does not teach a scorer that calculates a score based on a present set of documents located thus far in the search and on the range of static ranks of a next partition to be scanned and wherein the index scanner scans the next partition to locate documents containing a search word when the calculated score is above a target score.

Regarding independent claim 10, prior art of record does not teach a method for locating documents containing a search word found in a present user query comprising assigning a present query-independent rank to each document to be searched, ordering the documents and grouping the ordered documents to be searched into partitions by

present query-independent rank, indexing the documents in a partition, and specifically Applicant's arguments in the amendment filed on May 23, 2007 concerning the particular subject matter of calculating a score based on the range of static ranks of the next partition to be scanned is convincing. Prior art of record does not teach scanning the partitions in present query-independent rank order by iteratively searching a highest ranked unsearched partition for a search word found in the user query to add to a present set of located documents located thus far, calculating a score based on a present set of located documents and the present query-independent rank of documents indexed in a next highest ranking unsearched partition, comparing the calculated score to a target score and continuing to search the next highest ranking unsearched partition until the calculated score is higher than the target score; and returning search results including the document locations in the present set of located documents when the calculated score is higher than a target score.

Regarding independent claim 19, prior art of record does not teach one or more computer readable media storing computer readable instructions for retrieving documents containing search words in a query by assigning a static rank to documents, indexing the documents by mapping document locations to words contained in the document, ordering and partitioning the index by document based on the static rank assigned to the document, and specifically Applicant's arguments in the amendment filed on May 23, 2007 concerning the particular subject matter of calculating a score based on the range of static ranks of the next partition to be scanned is convincing.

Prior art of record does not teach iteratively searching, in static rank order, a highest ranking unsearched partition to return locations for documents containing search words in the query, calculating a score based on a relevance of documents returned and the static rank assigned to a next partition to be searched, continuing to search the next partition until the calculated score is higher than a target score, and returning document locations as a query result when the calculated score exceeds the target score.

Regarding independent claim 25 prior art of record does not teach for use with a search engine that processes user queries, an apparatus for locating documents containing a search word found in a present user query comprising means for assigning a present query-independent rank to each document to be searched, means for ordering the documents to be searched in order of the assigned present query-independent rank and grouping the ordered documents into partitions by present query-independent rank, means for indexing documents in a partition by mapping a location for each document to words contained in the document to form an index and specifically Applicant's arguments in the amendment filed on May 23, 2007 concerning the particular subject matter of calculating a score based on the range of static ranks of the next partition to be scanned is convincing. Prior art of record does not teach means for scanning the partitions in present query-independent rank order by iteratively searching a highest ranked unsearched partition for a search word found in the user query to add to a present set of located documents located thus far, calculating a score based on a

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present set of located documents and the present query-independent rank of documents indexed in a next highest ranking unsearched partition, comparing the calculated score to a target score, continuing to search the next highest ranking unsearched partition until the calculated score is higher than the target score and means for returning search results including the document locations in the present set of located documents when the calculated score is higher than a target score.

3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

#### **CONTACT INFORMATION**

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan F. Rayyan whose telephone number is 571-272-1675. The examiner can normally be reached on M-F, 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cottingham can be reached on 571-272-7079. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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6/12/2007

  
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